The New Haven Wellness Information Network Evaluation

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Background

- The New Haven Wellness Information Network (WIN) was designed to improve access to care for uninsured patients utilizing the Yale New Haven Hospital (YNHH) Emergency Department by identifying primary care medical homes and providing case management services to link patients to those medical homes.
- WIN also included the development of a community health information system to link the safety net providers who make up our CAP initiative.

Background

- Goals of the evaluation were generated by WIN Steering Committee.
- Sustainability was an objective from the inception of the WIN project.
- Project was initially structured based on data needs of the evaluation.
- Evaluation was designed to produce information to support sustainability, specifically:
  - Determining effectiveness of the intervention;
  - Determining costs and benefits of the intervention

Purpose

To evaluate the impact of the ED Referral/Case Management intervention on proportion of uninsured individuals who had:

- Primary care site contacts;
- Inpatient stays;
- ED visits.

To evaluate the costs and benefits of the ED Referral/Case Management intervention.

Methods

Design: Randomized Clinical Trial

All shifts covered by Health Promotion Advocates (HPA) in the Yale New Haven Hospital Emergency Department were randomly assigned to intervention or comparison conditions.

Timeframe: Recruitment for the evaluation took place between April 22, 2002 and July 21, 2002.

Sample Size: 236 individuals, 123 intervention and 113 comparisons.

Refusal Rate: 3%.

ED Referral/Case Management Intervention

On intervention shifts, HPAs in the YNHH ED recruited uninsured patients living in New Haven without primary healthcare providers. If patients agreed to participate, HPAs:

- Obtained informed consent;
- Gathered sociodemographic and healthcare utilization information;
- Assisted patients in choosing a healthcare site;
- Faxed sociodemographic/utilization information, informed consent, medical information release and ED discharge sheet to the selected primary care site.

ED Referral/Case Management Intervention

Within 3 Days, Case Managers at the Primary Care Sites contacted intervention study participants and made appointments for case management assessments and/or medical care.

ED Referral/Case Management Comparison

On comparison shifts, HPAs in the YNHH ED recruited uninsured patients living in New Haven without primary care providers. If patients were willing to participate, HPAs:

- Obtained informed consent;
- Gathered sociodemographic, healthcare utilization information;
- Proceeded with usual referral process.

Outcomes

For 6 months post enrollment, the 236 WIN evaluation participants were followed determine:

- Number of contacts with primary care sites;
- ED visits;
- Inpatient stays.

Results: Demographics for WIN Evaluation Participants

	Intervention	Comparison	X2 (df, p-value)
Sex: Male	82 (66.7%)	85 (75.2%)	2.0832 (1, p=0.1489)
Female	41 (33.3%)	28 (24.8%)	
Age: < 30 years	64 (52.0%)	57 (50.4%)	3.4506 (2, p=0.1781)
31-50 years	45 (36.6%)	50 (44.3%)	
> 50 years	14 (11.4%)	6 (5.3%)	
Race: White, not Hispanic	26 (22.2%)	21 (19.3%)	0.5748 (4, p=0.7
Black, not Hispanic	44 (36.7%)	46 (42.2%)	
Hispanic (White or Black)[1]	47 (40.2%)	42 (38.5%)	
Marital Status: Single	83 (69.2%)	80 (72.1%)	0.2397 (2, p=0.8870)
Married	23 (19.2%)	19 (17.2%)	
Other[5]	14 (11.7%)	12 (10.8%)	

Results: Reasons for ED Visits

No place to go	179 (76.2%)
Knew ED would be open	1 (64.7%)
Would be seen without appointment	142 ( )
No insurance	124 (52
ED would give best care for problem	114 (48.5
No transportation elsewhere	3 (1.3%)
Refused care elsewhere	0 (0.0%)

Results: Six month Outcomes

OUTCOME	INTERVENTION	COMPARISON	X2 (p value)
Primary Care Site Contact	74/121 (61.2%)	25/111 (22.5%)	(<.0001)
Inpatient Admissions	1/123 (0.8%)	6/113 (5.3%)	4.1
ED visit(s)	46/123 (37.4%)	35/113 (31.0%)	1.1 (.3

Goals of Cost-Benefit Evaluation

Provide evidence for sustainability from multiple perspectives:

- Hospital;
- Health Care System (including FQHCs);
- Societal.

Background: Hospital Perspective

- Meetings were initially held with Hospital Administrators to understand their standards for judging the success of the project.
- Agreement on economic analysis design outcomes: use costs not charges; consider hospital perspective.
- Hospital Administrators agreed to provide proprietary data on utilization in conjunction with financial information.

Data

- Utilization data was provided by the hospital
- Inpatient and outpatient costs assigned by RIMS system – a standardized, computerized, comprehensive cost assignment system including:
  - Personnel,
  - Laboratory,
  - Specialty services,
  - Room and board, and
  - Other direct and indirect costs.

Analytic Design (I)

- Consider 6 month-window after the initial ED visit.
- Omit initial ED visit.
  - In sensitivity analysis omit care related to initial ED visit.
- Remedy discrepancies between hospital data and evaluation data.

Analytic Design (II)

- Calculate difference in costs between intervention and comparison participants for:
  - (1) per person ED costs;
  - (2) per visit ED costs;
  - (3) per person hospital costs;
  - (4) per person total costs.
- Calculate case management costs:
  - Consider both salary and fringe;
  - Calculate time spent on intervention patients.

Net Cost per ED visit

	Intervention	Comparison
Per visit cost (pre - period)	$330	$33
Per visit cost (post - period)	$245	$312

Hypothesize differences are due to less intensity in ED visits for Intervention patients.

ED Costs per Person

Intervention	Comparison
$133	$145

Cost per person are similar, even though more WIN evaluation particip
had ED visits (37.4% vs 31.0%)

Hospital Costs per Person

	Intervention	Comparison
Costs	$28	$401
Revenue	$22	$218
Net loss	$6	$183

Inpatient admission is relatively rare occurrence so costs are spread over a large number of participants.

Case Management Costs

- 2 months on project
- 3 case managers
- Annual salary + fringe = $ 57,375 /y
- 123 Intervention patients
- Cost of $233 per intervention patient
- May be lower in “real world”

Cost – Benefit Analysis

- Benefits:
  - $189 reduction in net hospital cos[illegible] (per enrollee).
- Costs:
  - $233 per person for case management (per enrollee).

Future Analyses

- Health related outcomes:
  - Treatment for diabetes, hypertension, depression;
  - Lifestyle changes.

- Societal perspective:
  - Include costs of primary care visits;
  - Include labor market outcomes;
  - Include “quality of life” benefits.

Future Analyses

- Additional Cost Benefit analyses will assess impact of:
  - Linking qualified individuals to public insurance;
  - Integrated referral process from ED to medical home;
  - Self management as a means to drive down case management costs.

Policy Context

- Due to declines in state Medicaid/SCHIP income eligibility levels, fewer people than expected became insured as a result of the intervention.
  - It is projected 185,000 CT residents will lose or have lost coverage due to changes in Medicaid/SCHIP eligibility.
- One of our biggest hypothesized sources of savings evaporated (SAGA).

Conclusion

- ED Referral/Case Management intervention can establish medical homes for uninsured individuals.
- Intervention is associated with lower hospital use.
- Although not cost saving, intervention clearly reduces hospital health care costs.
- Additional costs may be justified by improvements in health and productivity.